

CLAIMS:

1. Method for visualisation of a 3-dimensional (3-D) scene model of a 3-D image, with a 3-D display plane comprising 3-D pixels by
emitting and/or transmitting light into certain directions by said 3-D pixels,
thus visualising 3-D scene points, characterized in that

5 said 3-D scene model is converted into a plurality of 3-D scene points,
 said 3-D scene points are fed at least partially to at least one of said 3-D pixels,
 said at least one 3-D pixel calculates its contribution to the visualisation of a 3-D scene point.

10 2. Method according to claim 1, characterized in that light is emitted and/or transmitted by 2-D pixels comprised within said 3-D pixels, each 2-D pixel directing light into a different direction contributing light to a scene point of said 3-D scene model.

15 3. Method according to claim 1, characterized in that said 3-D scene points are provided sequentially, or in parallel, to said 3-D pixels.

4. Method according to claim 1, characterized in that the contribution of light of a 3-D pixel to a certain 3-D scene point is made previous to the provision of said 3-D scene points to said 3-D pixels.

20 5. Method according to claim 1, characterized in that the contribution of light of a 3-D pixel to a certain 3-D scene point is calculated within one 3-D pixel of one row or of one column previous to the provision of said 3-D scene points to the remaining 3-D pixels of a row or a column, respectively.

25 6. Method according to claim 1, characterized in that a 3-D pixel outputs an input 3-D scene point to at least one neighbouring 3-D pixel.

7. Method according to claim 1, characterized in that each 3-D pixel alters the co-ordinates of a 3-D scene point prior to putting out said 3-D scene point to at least one neighbouring 3-D pixel.

5 8. Method according to claim 1, characterized in that in case more than one 3-D scene point needs the contribution of light from one 3-D pixel, the depth information of said 3-D scene point is decisive.

9. Method according to claim 1, characterized in that said 2-D pixels of a 3-D
10 display plane transmit and/or emit light only within one plane.

10. Method according to claim 1, characterized in that colour is incorporated by spatial or temporal multiplexing within each 3-D pixel.

15 11. 3-D display device, in particular for a method according to claim 1, comprising:
a 3-D display plane with 3-D pixels,
said 3-D pixels comprise an input port and an output port for receiving and putting out 3-D scene points of a 3-D scene,
20 said 3-D pixel at least partially comprise a control unit for calculating their contribution to the visualisation of a 3-D scene point representing said 3-D scene.

12. 3-D display device according to claim 11, characterized in that said 3-D pixels are interconnected for parallel and serial transmission of 3-D scene points.

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13. 3-D display device according to claim 11, characterized in that said 3-D pixels comprise a spatial light modulator with a matrix of 2-D pixels.

14. 3-D display device according to claim 11, characterized in that said 3-D pixels
30 comprise a point light source, providing said 2-D pixel with light.

15. 3-D display device according to claim 11, characterized in that said 3-D pixels comprise registers for storing a value determining which ones of said 2-D pixels within said 3-D pixel contribute light to a 3-D scene point.